Unmanned Aerial Vehicles

The Marine Corps has employed un¬manned aerial vehicles (UAVs) since 1986 to provide near real-time reconnaissance, surveillance, and intelligence to tactical commanders. The demand for intelligence, surveillance, and reconnaissance support continues to grow, and clearly highlights the increased need for un-manned aerial systems (UAS) in the Marine Corps. To fulfill this need, the VMU will begin an organizational transformation that will lead to a flexible, scaleable, detachment based squadron. This reorganization will be based around the Army One Ground Control Station (GCS), envisioned as the common GCS for all tiers of Marine Corps UAS Family of Systems (FoS) and all current Army UAS.

The Marine Corps's UAS concept of employment is divided into three tiers, each coinciding with the level of unit they support. The Marine Corps Combat Development and Integration Command (MCCDC) has completed the Marine Corps UAS Family of Systems concept of operations and is conducting the USMC overarching capabilities study which will refine the requirements for the USMC Family of Systems UAS.

The Marine Corps' Tier I UAS, Dragon Eye, is being flown at the Battalion level and below with great success in Operation Iraqi Freedom (OIF). The Dragon Eye UAS achieved Initial Operational Capability (IOC) in June 2004. The Marine Corps is currently transitioning from Dragon Eye to the Joint Small UAS, Raven-B, which has been selected by the Army and Special Operations Command. There are currently 270 Dragon Eye in the inventory with plans to procure 460 Raven-B systems.

The Marine Division, Regimental, Battalion and Marine Expeditionary Unit (MEU) commanders will be supported by the Tier II UAS. The Marine Corps employs two Scan Eagle UAS systems under a fee-for-service agreement to fill this identified capability gap. The current sole-source contract is being re-competed and will continue to provide this capability while a full program of record is developed. The Joint sponsored Tier II UAS program Initial Capabilities Document was JROC approved in Dec 06. The program of record has planned IOC in 2010.

The Marine Corps' Tier III UAS serves the Joint Task Force (JTF)/Marine Air Ground Task Force commander (MAGTF). Currently, Pioneer is the Marine Corps' Tier III UAV. The Marine Corps introduced Pio¬neer in 1986 as an interim UAV system that would be replaced within 10 years. Since then, it has served with distinction from Desert Storm through its current duties in OIF. In OIF, Pioneers have provided the intelligence necessary to make the difference between success and failure. VMU units have increased opera¬tional tempo to nearly ten times their peacetime rate in support of troops on the ground. Using Pioneer's electro-optical and infrared cameras, ground units have visual access to their areas of responsibility and routes prior to the first Marine crossing the line of departure. Pi¬oneer can provide con-

tinued access during the remainder of their mission. Due to parts obsolescence and cost growth the Pioneer has become logistically unsupportable.

Marine Requirements Oversight Council Decision Memorandum 10-2007 endorsed the plan to transition from the RQ-2B Pioneer to the US Army RQ-7B Shadow as the Interim Tier III UAS. The Marine Corps plans to transition to the Shadow system during the fourth quarter of FY07 to allow a first quarter FY08 USMC Shadow deployment to sustain current OIF operations. By FY09, the Marine Corps will increase the number of Shadow systems in each VMU, and reorganize the squadron into a detachment capable organization, essentially tripling the capability of the VMU without increasing the required manpower. Additionally, the Marine Corps will begin the stand up additional VMUs in the Marine Corps. This will greatly increase the MAGTFs UAS capacity and op-tempo flexibility.

Vertical Unmanned Aircraft System (VUAS): As the Tier III replacement, VUAS will provide responsive, real-time reconnaissance, surveillance, intelligence, electronic attack, targeting and weapons employment capability that is organic to the MAGTF and JTF Commanders. It will have the key attributes necessary to support Expeditionary Maneuver Warfare. These include vertical takeoff and landing from air capable ships/austere land bases, the speed to be responsive and tactically agile, and the survivability required to effectively operate in denied access environments. The VUAS Initial Capabilities Document was approved in December of 2005. An Analysis of Alternatives is underway to examine existing UA systems, their costs, and ability to meet the Marine Corps requirements. The AoA will inform POM-10 programmatic decisions. VUAS has a planned IOC of 2015.